That claimed is:

1. A method of measuring the volume of a biological cavity having an inner wall, comprising the steps of:

moving a multi-axis accelerometer within the cavity such that it interacts with the inner wall at a plurality of points and outputs an acceleration signal indicative of such interactions; and

double integrating the output of the accelerometer to determine the three-dimensional volume of the cavity.

2. The method of claim 1, wherein the axes of the accelerometer are orthogonal to one another.

3. The method of claim 1, wherein the accelerometer is a 3-axis accelerometer.

4. The method of claim 1, wherein the accelerometer is a micro-electro-mechanical system (MEMs).

5. The method of claim 1, wherein the accelerometer is supported relative to the distal tip of a catheter.

6. The method of claim 5, wherein the accelerometer is mounted on a moveable member facilitating:

a first position, wherein the member is retracted into the tip for insertion into the cavity, and

a second position, wherein the member is extended from the tip for interaction with the inner wall.

7. The method of claim 5, wherein:

the cavity is a human blood vessel; and

the accelerometer interacts with the inner wall as the catheter is withdrawn from the vessel.

8. The method of claim 1, wherein the plurality of points approximates a helix.

9. A method of measuring the volume of a blood vessel having an inner wall, comprising the steps of:

placing a multi-axis accelerometer at the end of a catheter;

inserting the catheter into the blood vessel to be measured;

withdrawing the catheter in such a way that the accelerometer interacts with the inner wall at multiple points and outputs an acceleration signal indicative of such interactions; and

double integrating the output of the accelerometer to determine the three-dimensional volume of the vessel.

10. The method of claim 9, wherein the axes of the accelerometer are orthogonal to one another.

11. The method of claim 9, wherein the accelerometer is a 3-axis accelerometer.

12. The method of claim 9, wherein the accelerometer is a micro-electro-mechanical system (MEMs).

13. The method of claim 9, wherein the accelerometer is mounted on a moveable member facilitating:

a first position, wherein the member is retracted into the catheter for insertion into the cavity, and

a second position, wherein the member is extended from the catheter for interaction with the vessel wall.

14. The method of claim 9, wherein the plurality of points approximates a helix.

15. A system for measuring the volume of a biological cavity having an inner wall, comprising:

a multi-axis accelerometer operative to output a signal indicative of acceleration as a function of interactions with the inner wall; and

processing circuitry for performing the following functions:

a) receiving the signal output by the accelerometer, and

b) double integrating the signal to determine the three-dimensional volume of the cavity.

16. The system of claim 15, wherein the axes of the accelerometer are orthogonal to one another.

17. The system of claim 15, wherein the accelerometer is a 3-axis accelerometer.

18. The system of claim 15 wherein the accelerometer is a micro-electro-mechanical system (MEMs).

19. The system of claim 15, further including a catheter having a distal tip, and wherein the accelerometer is supported relative to the distal tip.

20. The system of claim 19, further including a moveable member upon which the accelerometer is mounted, the moveable member facilitating:

a first position, wherein the member is retracted into the tip for insertion into the cavity, and

a second position, wherein the member is extended from the tip for interaction with the inner wall.

21. The system of claim 20, wherein:

the cavity is a human blood vessel; and

the accelerometer interacts with the inner wall as the catheter is withdrawn from the vessel.

22. The system of claim 15, wherein the plurality of points approximates a helix.

23. The system of claim 15, further including apparatus for actively moving the accelerometer to increase the number of interactions.

24. The system of claim 15, wherein the processing circuitry further includes:

a first controller interfaced directly to the accelerometer to perform signal conditioning and direct the accelerometer; and

a computer coupled to the first controller to perform the double integrations.

25. The system of claim 15, wherein the processing circuitry further includes a display for displaying a representatin of the biological cavity in accordance with the result of the double integrations.